

Paper #671 Amend Q
18 May 98

BD1 CIP FWC IV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Sherie L. Morrison et al.
Serial No. : 08/266,154
Filed : June 27, 1994
For : METHODS FOR PRODUCING FUNCTIONAL
IMMUNOGLOBULIN, INCLUDING CHIMERIC
IMMUNOGLOBULIN, IN TRANSFORMED
MAMMALIAN LYMPHOCYTIC CELLS
Group Art Unit : 1806
Examiner : Julie E. Reeves, Ph.D.
Hon. Assistant Commissioner
for Patents
Washington, D.C. 20231

Official
18 May 98
JR

May 18, 1998

SECOND AMENDMENT AFTER ALLOWANCE
PURSUANT TO 37 C.F.R. 1.312(a)

Sir:

Applicants request approval under Rule 312(a) for entry of the following amendment without withdrawing the case from issue.

OK to enter
JR
18 May 98

IN THE TITLE

Please replace the current title with:

*Q 1
6/18/98*

METHODS AND TRANSFORMED MAMMALIAN LYMPHOCYTIC CELLS FOR
PRODUCING FUNCTIONAL ANTIGEN-BINDING PROTEIN INCLUDING
CHIMERIC IMMUNOGLOBULIN AND FRAGMENTS

IN THE CLAIMS

Please amend claims 129-131 and 134-137 as follows:

34 Q₂ 129. A method as recited in claim *126* wherein [each] the first chain comprises a constant region.

35 Q₃ 130. A method as recited in claim *126* wherein the heavy and light chain variable domains are from [domain is found in] a first mammalian species and the heavy and light chain constant domains are from [domain is found in] a second mammalian species, said second mammalian species being other than the first mammalian species.

36 Q₃ 131. A method as recited in claim *129* wherein the heavy and light chain variable domains are from [domain is found in] a first mammalian species and the heavy and light chain constant regions are from [region is found in] a second mammalian species, said second mammalian species being other than the first mammalian species.

39 Q₄ 134. A method as recited in claim *132* wherein prior to step (a) the cell endogenously produces an immunoglobulin light chain or an immunoglobulin heavy chain, [which endogenously-produced heavy chain is not secreted in a form capable of specifically binding to antigen,] but not both.

40 Q₅ 135. A method as recited in claim *132* wherein [each] the first chain [has] comprises a constant region.

Q5 136. A method as recited in claim 132 wherein the antigen-binding protein [immunoglobulin] comprises the heavy and light chain variable domains are from [domain found in] a first mammalian species and comprises the heavy and light chain constant domains are from [domain found in] a second mammalian species, said second mammalian species being other than the first mammalian species.

Q5 137. A method as recited in claim 135 wherein the antigen-binding protein [immunoglobulin] comprises the heavy and light chain variable domains are from [domain found in] a first mammalian species and comprises the heavy and light chain constant regions are from [region found in] a second mammalian species, said second mammalian species being other than the first mammalian species.

Please add the following claims 138-157.

Q6 138. A method for producing a functional antigen-binding protein comprising
i) a first chain comprising an immunoglobulin heavy chain variable domain and an immunoglobulin heavy chain constant domain and
ii) a second chain comprising an immunoglobulin light chain variable domain and an immunoglobulin light chain constant domain,
wherein the method comprises the steps of:
(a) maintaining in a nutrient medium a transformed mammalian lymphocytic cell, said cell having been transfected with a first DNA molecule coding for the first chain of the protein and a second DNA molecule coding for the second chain of the protein;

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(b) expressing from said cell the first and second chains functionally assembled together to form said protein which is then secreted in a form capable of binding antigen; and

(c) recovering said antigen-binding protein,

wherein prior to being transfected, the cell does not express a functional immunoglobulin capable of specifically binding antigen.

144. A method as recited in claim 138 wherein prior to step (a) the cell does not endogenously produce any immunoglobulin chains.

145. A method as recited in claim 138 wherein prior to step (a) the cell endogenously produces an immunoglobulin light chain or an immunoglobulin heavy chain, but not both.

146. A method as recited in claim 138 wherein the first chain comprises a constant region.

147. A method as recited in claim 138 wherein the heavy and light chain variable domains are from a first mammalian species and the heavy and light chain constant domains are from a second mammalian species, said second mammalian species being other than the first mammalian species.

148. A method as recited in claim 141 wherein the heavy and light chain variable domains are from a first mammalian species and the heavy and light chain constant regions are from a second mammalian species, said second mammalian species being other than the first mammalian species.

149. A transformed mammalian lymphocytic cell producing a functional antigen-binding protein comprising

i) a first chain comprising an immunoglobulin heavy chain variable domain and an immunoglobulin heavy chain constant domain and

ii) a second chain comprising an immunoglobulin light chain variable domain and an immunoglobulin light chain constant domain,

wherein the transformed mammalian lymphocytic cell comprises:

(a) a first exogenous DNA molecule coding for the first chain of the protein; and

(b) a second exogenous DNA molecule, said second DNA molecule coding for the second chain of the protein;

wherein without the exogenous DNA molecules the cell does not express a functional antigen-binding protein.

50 145. A transformed mammalian lymphocytic cell as recited in claim 144 ⁴⁹
wherein without the exogenous DNA molecules the cell does not endogenously produce any immunoglobulin chains.

51 146. A transformed mammalian lymphocytic cell as recited in claim 144 ⁴⁹
wherein without the exogenous DNA molecules the cell endogenously produces an immunoglobulin light chain or an immunoglobulin heavy chain, but not both.

52 147. A transformed mammalian lymphocytic cell as recited in claim 144 ⁴⁹
wherein the first chain comprises a constant region.

53 148. A transformed mammalian lymphocytic cell as recited in claim 144 ⁴⁹
wherein the heavy and light chain variable domains are from a first mammalian species and the heavy and light chain constant domains are from a second mammalian species, said second mammalian species being other than the first mammalian species.

Q_b
cont.

54 149. A transformed mammalian lymphocytic cell as recited in claim 147

wherein the heavy and light chain variable domains are from a first mammalian species and the heavy and light chain constant regions are from a second mammalian species, said second mammalian species being other than the first mammalian species.

55 150. A transformed mammalian lymphocytic cell producing a functional antigen-binding protein comprising

- i) a first chain comprising an immunoglobulin heavy chain variable domain and an immunoglobulin heavy chain constant domain and
 - ii) a second chain comprising an immunoglobulin light chain variable domain and an immunoglobulin light chain constant domain,

wherein the transformed mammalian lymphocytic cell comprises:

- a plasmid comprising a first exogenous DNA molecule coding for the first chain of the protein and a second exogenous DNA molecule coding for the second chain of the protein; and

wherein without the exogenous DNA molecules the cell does not express a functional antigen-binding protein.

56 151. A transformed mammalian lymphocytic cell as recited in claim 150
wherein without the exogenous DNA molecules the cell does not endogenously produce
any immunoglobulin chains.

57-152. A transformed mammalian lymphocytic cell as recited in claim 150
wherein without the exogenous DNA molecules the cell endogenously produces an
immunoglobulin light chain or an immunoglobulin heavy chain, but not both.

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Q6
cont.

58 ~~155~~ A transformed mammalian lymphocytic cell as recited in claim ~~150~~ ⁵⁵
wherein the first chain comprises a constant region.

59 ~~154~~ A transformed mammalian lymphocytic cell as recited in claim ~~150~~ ⁵⁵
wherein the heavy and light chain variable domains are from a first mammalian species and
the heavy and light chain constant domains are from a second mammalian species, said
second mammalian species being other than the first mammalian species.

60 ~~155~~ A transformed mammalian lymphocytic cell as recited in claim ~~153~~ ⁵⁸
wherein the heavy and light chain variable domains are from a first mammalian species and
the heavy and light chain constant regions are from a second mammalian species, said
second mammalian species being other than the first mammalian species.

61 ~~156~~ A transformed mammalian lymphocytic cell produced by steps (a)
and (b) of claim ³¹ ~~126~~.

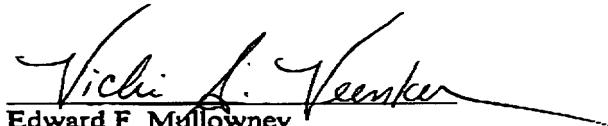
62 ~~157~~ A transformed mammalian lymphocytic cell produced by step (a) of
claim ³⁷ ~~132~~.

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REMARKS

Applicants believe claims 138-157 are fully supported by the specification
and respectfully request their entry and allowance.

Respectfully submitted,



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